State of Montana
Fish, Wildlife & Parks

Agency IT Plan
Fiscal Year 2012-2017

May 2012

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EXECUTIVE SUMMARY

To tie the previous plan to this one, a quick summary might be helpful. During implementation of the previous plan, Montana Fish, Wildlife and Parks (FWP) Technology Services Bureau (TSB) accomplished most of the noted objectives. Adding some challenge was a move of all FWP Headquarter based computing infrastructure to the State of Montana Data Center (SMDC). Several months of planning efforts, including a major emphasis on virtualization, culminated on December 31, 2011 with a successful but relatively uneventful migration to the new facility.

With the cooperation of many, several noteworthy items were completed, each contributing to more than one stated goal:

- FWP's OTO technology positions were approved as full-time permanent. (G1,4)
- A Video Conferencing System was engineered and operating, with scheduling, troubleshooting, etc instructions developed to facilitate adoption and ease of use. (G1,2,5)
- A Parks Reservation system was implemented and went through its first year of production use. (G1,2)
- Numerous Legacy applications, written for Sequel Server and MySQL, were replaced with systems that utilized an Oracle database achieving a more standardized FWP database platform. Those that remain will be completed during this planning period. (G1,2,3,5)
- FWP's website was converted to a new content management system (OpenCMS) allowing closer management of content by program staff, thus creating less dependence and requirement for hands on efforts by technological staff. (G1,2,3,5)
- The core foundation for a centralized comprehensive biological fish and wildlife system was developed and implemented. Further ancillary systems are anticipated into the future. (G1,2, 3,5)

TSB has adopted Agile development techniques and continues previous efforts to engage program staff as "product owners" for each software application. This creates a responsible focal business contact to establish better programmatic ownership and provide a liaison between users and technical staff. As a stated agency priority, FWP's Fisheries & Wildlife System was an area of TSB focus, so there were minimal demands on the established governance structure during this period. Additional discussion with this group revolved around process, so that upcoming years should see a more effective prioritization of program requests.

Security, continuity of government and continuity of operations continue to remain near the top of the list of priorities. During this period, FWP saw turnover in its Security Officer position, resulting in less progress than hoped within FWP's Security Program.

Competing for experienced and qualified staff continues to be difficult.

FWP's cash fund balance continues to decline with focus, regardless of program, anticipated to be on cost reductions.

These issues pose challenge to technology resources within an agency where appetite for information is literally unbounded.

Within this strategic plan FWP stated goals include:

1. Successful communication and participation in collaborative efforts.
2. Effective technological products and services.
3. Stable, secure, supportable and recoverable information systems.
4. Technology workforce recruitment, development, and retention.
5. Development and implementation of standardized technology practices and procedures.

In no particular order, and while not really meeting the criteria for reporting, the following initiatives are being considered for future efforts (Details are provided in the Initiatives Section):

1. SmartCop project.
2. Migration off SITSD's eDirectory tree.
3. Fisheries and Wildlife System continued development.
4. Rebuild VMWare DR Appliance.
5. MySQL platform retirement.
6. Middleware test environment.
7. Additional auditing within application software.
8. Document management system.
9. GovDelivery software subscription purchase.
10. Oracle forms and reports replacement.
11. ALS Test Environment creation
12. Internal review of IT services.

As the current biennium comes to a close and the next biennium starts, especially given the rapid pace of technology and the many influences on FWP business areas, it is anticipated that new initiatives may be identified. Some may meet the criteria for reporting and some likely won't. Further plan revisions will occur as necessary, and as FWP business continues to take advantage of the efficiencies that technology can provide. As always, special focus will be on methods to increase productivity/reduce cost and/or increase services to customers. The primary intent of this strategic plan is to continue to establish the framework to allow a centralized approach to technology to guide FWP into the future.

SECTION 1: AGENCY ADMINISTRATIVE INFORMATION

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IT Inventory

The IT inventory database located at http://mine.mt.gov/enterpriseitinventory, server inventory was updated on April 5, 2012 and workstation inventory will be updated by May 31, 2012 once we complete our FY12 allocation. As required by MCA 2-17-524(3)(c) the plan will be updated by June 30th, 2012.

SECTION 2: AGENCY IT MISSION

Provide timely and accurate technological services to our customers through secure systems, consistent standards, innovative solutions and skilled staff to allow for sound fiscal choices and fulfillment of FWP's mission.

SECTION 3: AGENCY REQUIRED PROGRAMS

Information Security Management (ISM) Program General Description

Montana Fish, Wildlife & Parks has implemented a department-wide (agency) information security management program compliant with §2-15-114, MCA and State Information Technology Systems Division *Information Security Programs* policy with adoption of the National Institute of Standards and Technology (NIST) Special Publication 800 series as guides for establishing appropriate security procedures. This is in alignment with the State of Information Technology Service's direction for an enterprise approach to protect sensitive and critical information being housed and shared on State and/or external/commercial information assets or systems.

As described in NIST SP 800-39, the agency has developed and adopted the Information Risk Management Strategy to guide the agency through information security lifecycle architecture with application of risk management. This structure provides a programmatic approach to reducing the level of risk to an acceptable level, while ensuring legal and regulatory mandates are met in accordance with MCA §2-15-114.

The agency's program has four components, which interact with each other in a continuous improvement cycle. They are as follows:

- Risk Frame – Establishes the context for making risk-based decisions
- Risk Assessment – Addresses how the agency will assess risk within the context of the risk frame; identifying threats, harm, impact, vulnerabilities and likelihood of occurrence
- Risk Response – Addresses how the agency responds to risk once the level of risk is determined based on the results of the risk assessment; e.g., avoid, mitigate, accept risk, share or transfer
- Risk Monitoring – Addresses how the agency monitors risk over time; "Are we achieving desired outcomes?"

The agency's information security management program is challenged with limited resources; manpower and funding. While alternatives are reviewed and mitigation efforts are implemented the level of acceptable risk is constantly challenged by the ever changing technology and associated risks from growing attacks and social structure changes. Specific vulnerabilities have been identified which require restructure, new equipment, or personnel positions (funds increase), and are addressed below in our future plans.

Future Security Program Plans

The FWP data security program focuses on several areas. First, physical security for the agency's core data infrastructure continues to be a major consideration. Ensuring access is restricted to appropriate personnel in these sensitive areas is an ongoing challenge. Secondly, electronic security for agency data is accomplished through numerous logical processes and checks. Encryption technologies are utilized where appropriate to safeguard sensitive data communications and to protect sensitive data at rest in storage.

FWP is in the process of creating an entirely new security program based on industry best practices, SITSD and agency advice and assistance, along with adoption and implementation of National Institute of Standards and Technology (NIST) publish guidelines and Federal Information Processing Standards (FIPS) to secure information systems by managing the risks to those systems. As the program's development progresses, FWP's specific measures and strategies to fully implement these guidelines and ensure our core goals of Data Protection, Individual Privacy Protection, and robust Disaster Planning, will be in the program's guiding document.

- Initiate Department program review through a staff assistance visit from the CIO Programs office
- Prepare and submit to the Montana CIO office a Memorandum of Record for compliance
- Establish a timeline of completion for policy and structure implementation
- Design Information Security plan
- Implement Information Security Plan

- Train security officer backup
- Initiate SANS training during semi-annual FWP new employee orientation

Continuity of Operations (COOP) Capability Program General Description

For a number of years, Montana Fish, Wildlife & Parks has been working in cooperation with the Department of Administration *Continuity Services* for the development of our agency's Continuity of Operations Capabilities, which will provide the plans and structure to facilitate response and recovery capabilities to ensure the continued performance of the State Essential Functions of Government. This program involves two Blocks of focus; the first is to complete the Business Continuity Plans (BCP) involving two phases, the second Block works on the specific business processes or activity plans such as Emergency Action Plans (EAP), Information System Contingency Plan (ISCP), Communications Plans, Incident Management Plans, and more. We are beginning to look at the requirements of these blocks and, depending on scope, resources, etc., we will develop a schedule. This program is not a standalone process in that information which is identified and recorded under this structure can and often exists in the Records Management Program and associates with Information Security Management Program requirements.

Integration of these three programs is critical to the confidentiality, integrity, and availability of information, which is associated with each program.

Future COOP Program Plans

- FWP's security officer and security back up officer will attend LDRP training in 2012
- FWP will develop a plan designed to educate program staff on COOP concepts
- Commitment by program staff will be essential for the COOP program to succeed within FWP

Goal Number 1:

IT Goal 1   **Successful communication and participation in collaborative efforts with stakeholders**

Description: FWP Technology Services Bureau (TSB) staff will communicate and collaborate with stakeholders, and other agencies, to provide effective training, user documentation, service information, and other types of technical efforts to achieve cooperative and effective solutions.

Benefits:

- More comprehensive solutions
- Better informed and trained stakeholders
- Effective use of technology services, especially when coordinating across the state enterprise
- Clearer understanding of user needs and requirements
- Clearer understanding of technology and it's applications and limitations, and why IT policies make sense to the organization
- Cost reductions in associated and appropriate areas
- Ability to take advantage of enterprise, regional or national successes

This goal will help to more effectively address state strategic goal 2.

Supporting Objective/Action

Objective 1-1   **Mobile Computing**

Business requirements or business problem driving this objective.

As mobile devices (Smartphone's, tablets, etc.) continue to advance and become more common in everyday use, it is necessary for FWP to develop a sound strategy, and standards, policies, etc. to effectively utilize and control these devices both as tools for our employees, and tools for our customers.

Describe the benefits to be derived from the successful completion of this objective.
- Effective use of mobile computing technology
- Secure control of mobile computing interactions within the FWP computing environment
- Accommodations for mobile devices as a convenience for both our customers and employees

Describe the anticipated risks associated with this objective. (e.g., risks associated with inaction or not completing this objective; risks associated with completing this objective).
- Increased complexity in the FWP computing environment
- Potential security concerns with non-FWP owned equipment
- Inadequate connectivity infrastructure

What is the timeframe for completion of this objective?
- By end of FY13, define development sideboards and standards and have at least one initial application working in production.

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?
- FWP has a defined, implemented, standards-based policy governing the procurement and use of mobile device technology for its employees.
- FWP is able to securely deliver its web based public services to mobile devices.
- FWP has development sideboards and standards defined for mobile apps.

- Refine FWP public web to optimize browsing by mobile devices.

Supporting Objective/Action

Objective 1-2   **Identify areas that include a community of interest and explore ways to leverage shared efficiencies and supportability.**

Business requirements or business problem driving this objective:

FWP has legitimate business needs to leverage certain data held in other agency databases. An example of this includes employee data housed in the SABHRS database. FWP programs currently create manual and/or redundant lists of employees to use for a myriad of purposes. Staff should be able to readily access data already housed in SABHRS to create and manipulate these types of lists. FWP also uses SABHRS financial data to feed its Budget Allocation System (BAS). Processes to extract that data and import it into FWP databases are not as effective as other viable technical options. Opportunities should be created to allow more efficient access to FWP agency or staff data housed in other state databases. Another example includes FWP Enforcement staff having multiple relationships with other Law enforcement agencies where cooperative efforts can provide more effective enforcement efforts statewide.

Benefits of meeting this objective:
- Duplicated data is minimized
- Business efforts are coordinated more effectively across the enterprise

Risks associated with this objective are:
- Lack of cooperation
- Failure to meet this objective would result in continued duplication of data across agencies and less than effective services provided to the citizens of Montana.

The timeframe for completion of this objective is:
- Opportunities identified and brought into COI for discussion and documentation for action during FY14

Critical success factors and measures will include:
- Mutual cooperation between COI leads to tangible results
- Minimal to no instances of unnecessarily duplicated data

Goal Number 2:

IT Goal 2   **Provide effective technological products and services**

Description: Timely and effective application development and support, and technology delivery to customers. Special emphasis is to be placed on "customer service".

Benefits:
- Increased system efficiency
- Decision support services delivered
- Reduced administrative overhead
- Satisfied customers
- State-of-the-art technologies are available for FWP staff use
- Lower overall technology related costs

This goal will help to more effectively and directly address state strategic goal 3.

Supporting Objective/Action

Objective 2-1   **Reduce Technology Operations expenditures**

Business requirements or problems driving this objective include:

FWP's Fund balances are on a decreasing trend, predicted to be exhausted in 2015. Fee increases are the primary manner for FWP to increase revenue. The legislature makes decisions on whether license prices will increase, and it is not anticipated that the legislature will authorize any license fee increase. This means it is paramount that FWP programs cut expenditures to allow existing fund balances to last longer. This objective is geared toward identifying alternatives that will result in reducing technology costs by up to 10% in each year of the upcoming biennium.

Benefits of meeting this objective include:

- Extension of time before FWP fund balances reach zero.
- Less need to cut entire programs
- Less need to reduce staff
- More effective use of funds devoted to FWP use of technology

Risks associated with inaction or not completing this objective include:

- FWP fund balances decreasing faster than necessary
- Possibility of loss of staff positions
- Possibility of larger scale cuts
- Expenses incurred with no obvious tangible benefit

The timeframe for completion of this objective is:

- Identify options, and implement chosen alternatives by the end of FY13.

Success factors or measures will include:

- Technology expenditures for "operations" costs are anticipated to be measurable as at least 5%, and up to 10% less than expenditures in the previous fiscal year.
- Interim measures should provide an indication as FY-14 progresses.

Supporting Objective/Action

Objective 2-2 **Develop and implement additional components of the Fish and Wildlife Information System as they are prioritized by F&W Division.**

Business requirements or business problem driving this objective:

The core Fish & Wildlife Information System (FWIS) is complete. There are a number of interrelated applications that still need to be developed within the FWIS "umbrella". The F&W Division is responsible for prioritizing which of those remaining components will be addressed next.

Benefits of meeting this objective include:
- Information is directly and more easily accessible to stakeholders
- Customer convenience
- More timely communications
- Consistent information delivery
- Reduced errors due to inherent problems with paper-based processes

Risks associated with this objective include:
- Failure to meet this objective will result in continued disparate systems and an inability to easily link together related data.

The timeframe for completion of this objective is:
- Next priorities should be identified and prioritized by business sponsors by the end the 2012 calendar year.

Critical success factors and measures will include:
- Requested system(s) exist to store, manage, and access necessary documents, images, events and services, and are deployed for production use.

- Goals and objectives stated in the programs' business cases are met

Supporting Objective/Action

Objective 2-3   Stay abreast of emerging technologies through research and development in order to best serve FWP stakeholders.

Business requirements or business problem driving this objective:

Technology change is constant. New software versions or releases occur with regularity and require migration paths for existing systems and applications. New and improved products providing better manners of accomplishing results are released regularly as well. Existing technology becomes obsolete or unsupportable requiring update, upgrade or replacement.

Benefits of meeting this objective include:
- FWP stakeholders will have the most effective information technology tools available
- Cost efficiencies

Risks associated with this objective include:
- Desired or appropriate products for FWP that can't gain "enterprise" approval.

The timeframe for completion of this objective is:
- Ongoing as philosophies and technology change.

Critical success factors and measures will include:
- Cost-efficiencies documented as they occur.
- FWP systems continue to evolve to incorporate new and emerging technologies when and where feasible.

Supporting Objective/Action

Objective 2-4   Rework the internal site backend

Business requirements or business problem driving this objective:

Internal site currently has a single point of failure. If the apps server goes down, the internal site goes down. During Wednesday deployments, the updates are deployed to the server causing small outages throughout the day.

Benefits of meeting this objective include:
- Redundant System
- Structure would closely match the public website
- Greater availability and uptime

Risks associated with this objective include:
- Extensive workload
- Authentication piece would need to be rewritten
- Rely on SITSD to provide CSM

The timeframe for completion of this objective is:
- Plan developed this calendar year (2012)
- Look to implement next calendar year (2013)

Critical success factors and measures will include:
- JBoss would be clustered
- Apache front end would be set up

Goal Number 3:

IT Goal 3   Stable, secure, supportable and recoverable systems

Description: FWP applications and systems remain operational, free from compromise and can be recovered according to operational business requirements.

Benefits:
- FWP business continuity
- Stakeholder confidence
- Sensitive data protected
- Individual privacy safeguarded
- Appropriate and timely information provided to decision makers

Stable, secure and recoverable systems are at the very heart of protecting individual privacy and privacy of information. Stability and recoverability leads to improved government services in availability and uptime. Achievement of this goal will help to address state goals 1, 2 and 3.

Supporting Objective/Action

Objective 3-1   Implement Disaster Recovery Scenario Exercises

Business requirements or business problem driving this objective:

In order to ensure that FWP's disaster recovery efforts are appropriately planned and executed, annual exercises involving these plans and protocols are important to quantify timelines and expectations. By going through mock exercises, FWP will be able to effectively evaluate its DR program

Benefits of meeting this objective include:
- Experience gained by Staff
- Further refinement of timelines and management expectations
- Identification and mitigation of weak areas of the current DR plan
- Enhanced data protection

Risks associated with this objective include:
- Extensive staff time could be consumed, in a time where resources are limited relative to growing workload.
- Reasonably high cost to acquire initial equipment to position the agency to begin such exercises
- Competing projects and priorities.

The timeframe for completion of this objective is:
- Development and completion of the DR program by 2013 calendar year end
- Initial drill conducted for all systems by 2014 fiscal year end.

Critical success factors and measures will include:
- Completion of a mock disaster at least once for each FWP system, with follow-up exercises planned each calendar year.
- FWP management indicates understanding of agency DR needs and capabilities
- Each systems engineer/administrator is certified on the DR of their systems annually

Supporting Objective/Action

Objective 3-2   Transition the last of FWP's public-facing MS .net applications to Java Server Pages running within the OpenCMS content management system.

Business requirements or business problem driving this objective:

Moving legacy MS .net apps into Java will further reduce the breadth of legacy technologies at FWP that require maintenance, support, and additional cost.

Benefits of meeting this objective include:
- FWP is able to retire its IIS servers
- Continued strategic movement away from legacy technologies toward a Java-based code
- Increased supportability due to standardized development language

Risks associated with this objective include:

- Because of the old version of MS .net code these applications use, there is a risk that some security patch may not work correctly, with the result being a forced shutdown of the IIS server

The timeframe for completion of this objective is:
- Public web applications converted to JSP by the end of calendar year 2012

Critical success factors and measures will include:
- Current functionality is maintained or improved in the JSP rewrite
- Reusable Java code is leveraged

Supporting Objective/Action

Objective 3-3   Rewrite the online licensing service to use the ALX web service layers.

Business requirements or business problem driving this objective:

The original eLicensesales application was written in 2003 and used APIs developed by the ALS contractor. In 2006, FWP released its new licensing front-end (ALX) which used Java-based web services. This duality created the need to set up licenses a little different depending upon whether elicensesales or ALX. In 2011, Montana Interactive and FWP agreed to upgrade the online service by rewriting aging modPERL code into Java code, and taking advantage of switching the "feeds" to elicensesales over to the ALX web services at the same time.

Benefits of meeting this objective include:
- Both of FWP's license purchase methods will be using the same set of code, facilitating less work in the set up of licenses and improved support and maintenance capabilities

Risks associated with this objective include:
- Because of some minor differences in functionality between the elicensesales application and the ALX application, there is slight risk that the new functionality could cause some issues when released. This will be mitigated through extensive testing before the new product goes live.

The timeframe for completion of this objective is:
- Work will be completed by the end of FY13

Critical success factors and measures will include:
- Old ALS API code is retired.
- Online service rewrite leverages the ALX web service layers to provide improved usability in the licensing front-end
- Set up time and associated complexity is decreased

Supporting Objective/Action

Objective 3-4   Upgrade the ALX Java Runtime (JRE) to a newer version.

Business requirements or business problem driving this objective:

FWP's ALX front-end was first released statewide in 2006. The JRE is outdated. The runtime needs to be brought up to date.

It is important to keep software versions as up-to-date as feasible.

Benefits of meeting this objective include:

- Software continues to be supportable

Risks associated with this objective include:
- Because the new JRE is running on a new type of server that SITSD recently implemented, the need for thorough testing will be necessary to ensure everything is working at optimal efficiency.

The timeframe for completion of this objective is:
- Work will be complete by the end of FY13

Critical success factors and measures will include:
- Upgraded software is installed on the ALX devices
- JRE upgrade works well on SITSD's new WebLogic servers

Supporting Objective/Action

Objective 3-5   Move to Linux as the Operating System for the ALX devices. Modify printer code so that it works with the Linux OS.

Business requirements or business problem driving this objective:

FWP continues to have difficulties with the Windows operating system on its licensing terminals. In addition to cost, the number of patches and updates make management of these devices difficult. The sheer number of changes to the operating system mandated as "critical" by both the State and Microsoft result in substantial man hours lost to testing and deployment. By moving these terminals to a Linux operating system, FWP hopes to reduce acquisition and support costs over the life of these devices. Additionally, with multiple distributions of the OS available, FWP will avoid "vendor lock-in" and be able to the tailor the implementation specifically to the needs of FWP license agents and providers.

Benefits of meeting this objective include:
- This change will allow FWP to use newer printer technologies and keep that hardware contemporary and more easily supported.
- Cost savings

Risks associated with this objective include:
- Not getting this work complete before the current inventory of printers is exhausted

The timeframe for completion of this objective is:
- Work will be complete by the end of June 2012

Critical success factors and measures will include:
- OS and printers function as expected
- Old Windows OS configurations and new Linux OS configurations work simultaneously, with no negative impacts, as the new configuration is rolled out over time
- A documented plan exists detailing the rollout plans for the new device configuration

Supporting Objective/Action

Objective 3-6   Deploy Endpoint Security

Business requirements or business problem driving this objective:

Endpoint security would allow FWP to encrypt and secure highly sensitive data on portable devices, block inappropriate software packages, and block non-FWP removable storage devices from attaching to FWP computers and vice versa. Endpoint would help FWP ensure compliance with the following policies:

- SITSD policy 1240.X13, Workstation, Portable computer and PDA Security
- SITSD policy 1240.X02, Security of Sensitive Data

- SITSD policy 1140.XS1, Software Asset Management
- SITSD policy 1240.X02, Security of Sensitive Data

Benefits of meeting this objective include:
- Mobile Device prohibit unauthorized access
- USB Device Management
- Application Control

Risks associated with this objective include:
- Extensive workload
- Users may not like additional restrictions
- Additional cost if we include users not on SummitNet

The timeframe for completion of this objective is:
- Database and servers updates completed this calendar year (2012)
- Client rollout by the end of 2013

Critical success factors and measures will include:
- ZC M 11 installed on ZCM servers
- Endpoint security implemented on all of the workstations

Supporting Objective/Action
Objective 3-7   Design and Implement a business enterprise approach to address Information Security

Business requirements or business problem driving this objective:

- MCA 2-15-114 – Security responsibilities of departments for data
- MCA 2/15/112 – Duties and powers of department heads
- MCA 2/17/534 – Security Responsibilities of department

- NIST 800-53 – Recommended Security Controls for Federal Information Systems
- NIST SP800-39 - Managing Information Security Risk

Benefits of meeting this objective include:
- Internal, written policies and procedures designed to help ensure security are developed and maintained
- Appropriate, cost effective safeguards are implemented
- Ability exists to ensure internal evaluations are conducted
- Compliance with the Federal Information Security Management Act(FISMA) and National Institute of Standards and Technology (NIST) Guidance

Risks associated with this objective include:
- Extensive workload
- Users may not like additional restrictions

The timeframe for completion of this objective is:
- Initiate Department program review through a staff assistance visit (SAV) support from the CIO Programs office with a projected completion date by end of FY12
- Work with Director or Department Head to prepare and submit to the Montana CIO office a Memorandum of Record for compliance by end of FY12 which states a program review was conducted to ensure the requirements of MCA and MOM Policy have been met and no material weaknesses have been found

- Establish a timeline of completion for policy and structure implementation by end of FY12
- Design Information Security plan by end of FY13
- Implement Information Security Plan by beginning of FY14

Critical success factors and measures will include:
- Publish a department-wide policy as referenced in the department IT strategic plan
- Complete a department-wide policy document which provides the management structure for department information security program of all roles and responsibilities,
- Application of recommended security controls and integration of risk management

Goal Number 4:

IT Goal 4   Technology workforce recruitment, development, and retention

Description: With effective recruitment, development and retention practices, skilled technology staff are more easily recruited, existing staff have opportunities for additional training, progression within existing positions and career growth, and employee turnover is minimized. As outlined in the Agency's Goal A, the work environment should have clear priorities, the decision-making process should be efficient and effective; and a result is employees feel a sense of accountability, value and satisfaction in their achievements and their contributions to the agency's mission.

Benefits:
- Employees can perform challenging and meaningful work
- Opportunities for career growth, learning, and development are maximized
- Employees are recognized, valued, and respected for the contributions they make
- Employees are compensated fairly for the work they do
- Lower employee turnover/increased retention
- Critical business areas have cross-trained support

This goal directly addresses state goal 1.

Supporting Objective/Action

Objective 4-1   Make full use of FWP's employee award programs, and identify other creative options to enhance employee morale and retention efforts.

Business requirements or business problem driving this objective:

In the current budget environment, opportunities for employee advancement through pay exceptions or promotions are extremely limited. It is no longer possible to reward employees for exceptional performance through these traditional means. In order to continue to recognize the outstanding efforts of FWP IT staff, the use of the remaining employee award programs and thinking outside-the-box to identify additional possible options is essential to maintaining a viable, stable workforce.

Benefits of meeting this objective include:
- Enhanced employee morale
- Lowering of the potential turnover rate
- Increased employee loyalty
- Increased productivity

Risks associated with this objective include:
- Any possible negative perception by other FWP program staff
- Potentially ineffective in the long term as state technology salaries lag far behind private sector positions.

The timeframe for completion of this objective is:
- Identify and present at least two awards per section over the course of FY13.

- Identify and document new options for recognition/appreciation by FY13 end

Critical success factors and measures will include:
- No employee turnover due to dissatisfaction with technology management
- Each successful project recognized through some type of employee award program.
- Positive feedback received from employees during reviews

Supporting Objective/Action

Objective 4-2   **Enhance and improve the flexibility of FWP recruitment processes for technology positions.**

Business requirements or business problem driving this objective:
- Effectively use human, physical and fiscal resources. Manage revenue and expenditures with a long-term view.
- Recruit, train, develop, compensate and manage employees each year. Retain a highly qualified and motivated workforce.

Benefits of meeting this objective include:
- Substantial number of applications for a given posting
- Highly qualified applicants
- Better IS workforce
- Minimized re-posting efforts

Risks associated with this objective include:
- Any possible negative perception by other FWP program staff.

The timeframe for completion of this objective is:
- Ongoing review of recruitment processes.

Critical success factors and measures will include:
- Qualified applicants increased by 30%, over previous recruitment
- Vacancy time (not including planned vacancy savings) reduced by 50% per open position, excepting time required to meet vacancy savings requirements
- Fewer positions re-posted
- Increased acceptance of job offers by top candidates
- Competency based pay initiatives are developed and implemented

Supporting Objective/Action

Objective 4-3   **Develop and maintain a team of FWP IT employees with the knowledge and skills to meet the information services needs of FWP**

Business requirements or business problem driving this objective:
- Effectively use human, physical and fiscal resources. Manage revenue and expenditures with a long-term view
- Recruit, train, develop, compensate and manage employees each year. Retain a highly qualified and motivated workforce

Benefits of meeting this objective include:
- Better service
- Leadership and management advancement opportunities
- Improve employee morale
- Opportunity for skill development
- Improve staff relations
- Continuity of IS service levels

Risks associated with this objective include:
- Expanding customer requests and needs require expanding knowledge. Ultimately this can result in resource issues.

The timeframe for completion of this objective is:
- Position and individual knowledge, skills and career development plans documented by FY13 end.
- Cross training conducted, succession plans documented by FY13 end.
- Ongoing training and development as necessary.

Critical success factors and measures will include:
- Mandatory training requirements implemented with at least one class per year attended
- Skill set deficiencies documented with at least one class made available per year to address deficiencies
- Individual career development action plans exist
- Succession plans exist
- Progression model exists

Goal Number 5:

IT Goal 5   Develop and implement standardized practices and procedures

Description: FWP TSB will develop and implement standardized technology practices and procedures by researching industry accepted "best practices", and selecting and documenting those standards applicable to FWP technology services.

Benefits:
- Consistent practices and procedures
- Clear decision-making
- Efficient and effective use of IT and other staff resources
- Accountability
- Improved government services
- Positive ROI
- Greater Customer Satisfaction
- Project Risk Mitigation

Development and adherence to standard practices and procedures will lead to organized, deliberate and cost effective IT resource development, and ultimately improved and more secure government services. This goal most closely helps to address state goal 1, 3, and 4.

Supporting Objective/Action

Objective 5-1   Codify internal standard operating procedures for systems management

Business requirements or business problem driving this objective:

With the FWP IT environment increasing in size and complexity each year, having documented management protocols and procedures is essential to maintaining a stable, secure environment.

Benefits of meeting this objective include:
- Lower downtime
- Better communications with colleagues and customers
- More efficient maintenance windows
- Enhanced system protection

Risks associated with this objective include:
- Increased staff comp time
- Resistance from team members to standards methods and schedules

The timeframe for completion of this objective is:
- Each FWP system has management document with critical SOP's by calendar year end 2013

Critical success factors and measures will include:
- Each FWP system has management document with critical SOP's
- Systems engineers/administrators demonstrate competency in all SOP areas during reviews.

Supporting Objective/Action

Objective 5-2   Use appropriate project management methodologies and practices

Business requirements or business problem driving this objective:

As more and more requests for automation occur, the need to use tried and true methodologies becomes ever more important to effectively manage project budgets and resources and to ensure deliverables meet our customer's stated goals, objectives, and expectations. Toward this end, FWP IT reorganized to establish a distinct Project and Program Alignment Section, whose responsibilities include more closely coordinating business needs with technology through use of project management disciplines.

Benefits of meeting this objective include:
- Clear definition of roles of and communication mechanisms for the involvement of all appropriate stakeholders
- Efficient technology practices
- Better understanding of the program's highest valued business functions
- Increased teamwork
- Additional control over quality of software and infrastructure
- Appropriate control over varying types of development projects
- Assistance from business analysts to help programs analyze and document current business processes, and assess the suitability of re-engineering the business process to be more efficient, close potential audit holes, etc.

Risks associated with this objective include:
> There are more risks associated with not having a focused project management area and associated project expertise than in having it (e.g., higher cost projects).

The timeframe for completion of this objective is:
- Ongoing.

Critical success factors and measures will include:
- Program staff adopt a "project management culture" over time
- Projects are completed on time and within budget
- Change requests are effectively managed during projects and after systems have entered an ongoing maintenance and support state
- Risks are effectively managed
- Customers are satisfied with the deliverables

SECTION 5: IT INITIATIVES (FY2012 – FY 2017)

Initiative 1   SmartCop

Description: This pilot project was part of our previous strategic plan. The pilot program was completed and, with the approval of the Director's Office and Enforcement Bureau, we are moving forward with this project. We currently have six users that are using the SmartCop program. The project was tested with Windows 7, but Itronix does not supply drivers or support for the older GoBooks for Windows 7. Network staff is testing the SmartCop program on Windows XP. Once testing is complete, we will need to work with Enforcement to bring in the rest of the licensed users to Helena for the install. We are also planning on purchasing approximately 12 more Toughbooks this fiscal year. All of these users will ultimately be in the SmartCop program, bringing the total to approximately 30 users.

EPP Number (none)

Initiative 2   Migrate off SITSD's eDirectory tree

Description: SITSD will only support the State_of_Montana eDirectory tree through the end of FY13. FWP needs to put together a plan to analyze our current file and print environment and ensure that we want to continue using eDirectory. Once the analysis is complete, we need to complete a plan to move to a new file and print environment, or migrate our current file and print environment to our own eDirectory tree.

EPP Number (none)

Initiative 3   Fisheries & Wildlife Information System continued development

Description: The core Fish & Wildlife Information System (FWIS) will be completed by the end of the 1st quarter of 2012. There are a number of interrelated applications that still need to be developed within the FWIS "umbrella". The F&W Division is responsible for prioritizing which of those remaining components will be addressed next.

EPP Number (none)

Initiative 4   Rebuild VMWare DR App

Description: This appliance was built by a prior FWP employee. It is currently set up so it is allocated 500GB of SAN storage that isn't in use. We need to rebuild this appliance so it is using a minimum amount of SAN storage. We need this appliance to backup our virtual servers, which includes FWP's public web and internal sites.

EPP Number (none)

Initiative 5   MySQL Retirement

Description: One of the three systems running on MySQL was moved to the Oracle platform in the past biennium. This initiative will finalize consolidation of FWP RDBMS services onto the Oracle platform for the last two systems. This will reduce costs in hardware, software, and database and systems engineer support.

EPP Number (none)

Initiative 6   Middleware test environment

Description: Most of FWP's systems have three environments for QA and deployment procedures (development, test/migration, and production). For the JBoss web application platform, we currently only have development and production environments. The third environment will allow the ability to QA migrations before they are deployed to production, will provide a stable environment in which to perform QA and testing, will provide the ability to test production-like data, will ensure a more stable environment to perform user product demonstrations, will allow a consistent deployment path, and will provide the potential for future automated deployments.

EPP Number (none)

Initiative 7   Additional auditing to application software

Description: Per a 2009 ALS audit recommendation, FWP agreed to begin efforts to achieve code checking for application software in the next fiscal year. Work started on that effort, but due to other agency priorities, resulting workload, and the departure of the assigned staff, that effort did not progress very far and has not been completed. Rather than building custom software to achieve this objective, FWP may decide to purchase software that can provide this capability.

EPP Number (if applicable)

Initiative 8   Document Management System

Description: FWP has a distinct need to manage a large volume of scanned documents and images. Acquiring and implementing a robust, cost-effective document management system will allow the department to more efficiently manage its information, utilize less natural resources, and provide for a centralized location for storing and managing documents and images.

EPP Number (none)

Initiative 9   ALS Test Environment

Description: Currently, the FWP Automated Licensing System does not enjoy a robust, fully capable test environment. Providing this capability to both IT and the Licensing Bureau will allow the department to provide a better end product to the hunters and anglers of Montana by ensuring that changes made to the ALS system are fully tested and integrated prior to consumption by FWP constituents.

EPP Number (none)

Initiative 10   GovDelivery

Description: MFWP seeks to improve its outreach capabilities to the public. GovDelivery's Digital Communications Management platform will allow MFWP to build a significant stakeholder user base and to deliver important alerts, announcements, newsletters, and other key information to citizens. Additionally, GovDelivery's solution provides multiple communication methods to the public, such as RSS feeds, SMS, and email.

EPP Number (none)

Initiative 11   Oracle Forms/Reports Replacement

Description: MFWP has several hundred Oracle Forms and Reports (10g). Although Oracle still provides support for Forms and Reports, the technology is at the end of its life cycle and needs to be replaced. Also, it is difficult to find programmers who have experience developing and maintaining Forms and Reports. These modules will most likely be rewritten in Java.

EPP Number (none)

Initiative 12   Internal review of IT services to identify potential efficiencies and cost savings

Description: MFWP will undergo an internal review of all Information Technology costs and services to identify potential cost reductions and/or efficiencies. With a declining revenue stream, it is imperative that FWP expend technology funds on only those services and products that are most efficient and effective for its programs. Particular scrutiny will be given to services outsourced versus the effectiveness of managing the services internally.

EPP Number (none)

SECTION 6: ENTERPRISE ALIGNMENT

Communities of Interest Participation

☑ Government Services

☑ Public Safety

☑ Human Resources

☑ Environmental

☑ Education

☑ Economic

☑ Cultural Affairs

☑ Finance

SECTION 7: PLANNED AGENCY IT EXPENDITURES

Expense Category	FY2012		FY2013		FY2014		FY2015		FY2016		FY2017	
Personal Services	2,148,675		2,148,675		2,202,392		2,202,392					
Operating Expenses	2,231,937		2,231,937		2,120,340		2,120,340					
Initiatives	0		0		0		0					
Other expenditures	0		0		0		0					
Totals	4,380,612		4,380,612		4,322,632		4,322,632		0		0	

SECTION 8: ADDITIONAL INFORMATION - OPTIONAL

Other types of information that support the agency's IT Plan. Some examples might include other COI participation, reference to other IT plans such as GIS plan, eGovernment plan, security plan, staffing issues and constraints, etc.